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# Evaluating patient literacy to improve health outcomes in Milton, VT

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# Health care provider evaluation of patient literacy to improve health outcomes in Milton, VT

MILTON, VT

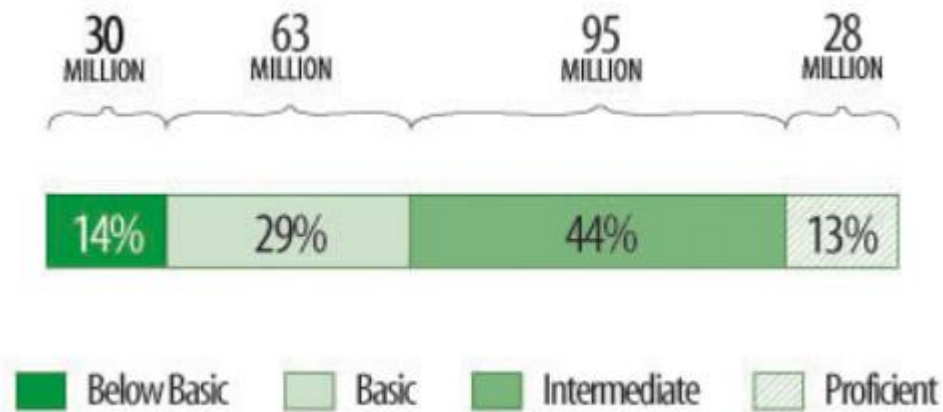
LINDSAY MILLER

FM CLERKSHIP ROTATION #1

MENTOR: TIM LISHNAK, MD

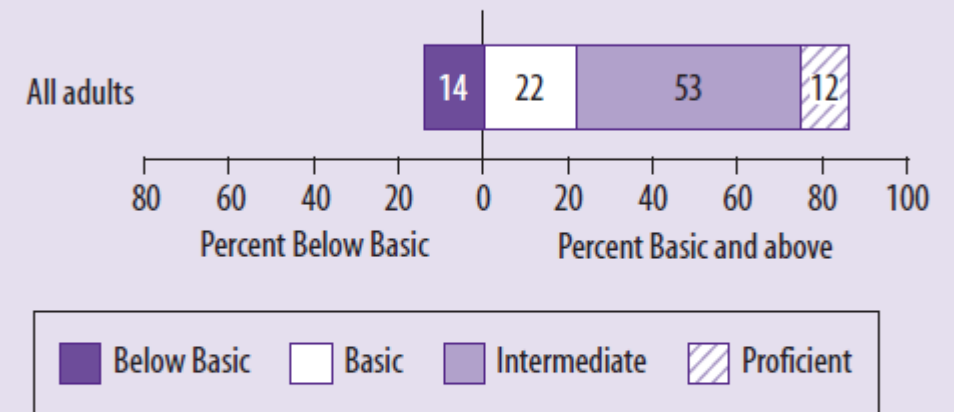
# Problem Identification/Description of Need A: United States

Percentage of adults in each literacy level: 2003



Source: NAAL 2003 national survey (1)

Figure 2-1. Percentage of adults in each health literacy level: 2003



NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003) are excluded from this figure. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

# Problem Identification/Description of Need B: Vermont, Chittenden County, and Milton

- ▶ Chittenden County
  - ▶ Diabetes deaths and heart disease-related deaths are higher than the state average (2)
  - ▶ These are chronic diseases requiring complex personal care and management
- ▶ Milton (3)
  - ▶ Population: 10,667 (2014) (8<sup>th</sup> biggest in VT)
  - ▶ Relatively higher young population and lower older population (compared to VT as a whole)
  - ▶ More have high school degree, fewer have Bachelor's (compared to VT as a whole)
  - ▶ Subjective problem
    - ▶ Several providers noted clear barriers to understanding in many patients
    - ▶ CCAs often note to providers that patients may have issues



# Cost Consideration A: Linking literacy and health outcomes

- ▶ 2004 systematic review identifying 44 studies that compared literacy to one or more health outcomes (4)
  - ▶ Patients with low literacy had poorer health outcomes including knowledge, intermediate disease markers, measures of morbidity, general health status, and use of health resources
  - ▶ Patients with low literacy were 1.5 to 3 times more likely to experience a given poor outcome
- ▶ 2011 updated systematic review (5) showed that lower health literacy was consistently associated with:
  - ▶ more hospitalizations
  - ▶ greater use of emergency care
  - ▶ lower receipt of mammography screening and influenza vaccine
  - ▶ poorer ability to demonstrate taking medications appropriately
  - ▶ poorer ability to interpret labels and health messages
  - ▶ poorer overall health status/higher mortality among elderly person

# Cost considerations B: Linking literacy and increased care

- ▶ Previous systematic review (5) found few studies of the cost of reduced health literacy but lower health literacy was associated with differential use of the health care system:
  - ▶ More hospitalizations
  - ▶ Greater use of emergency care
- ▶ In one VA hospital: Average per patient cost from 2007-2009 for those with inadequate and marginal health literacy was significantly higher than for those with adequate health literacy (\$31,581 versus \$17,033), even when controlling for other person-level factors (6)
  - ▶ Could save up to 8% of total costs in this pop by meeting needs of those w/ marginal and inadequate literacy
- ▶ No available data specific to Vermont or Milton, but extrapolating potential savings, reducing health care burden could have a substantial impact on a busy practice

# Community Perspective

“One of our goals here is to be a place where people can access information....In town there are not any free places to meet and not have to buy something, that's really what our goal is: to be a space to connect people to the information to what they're looking for...to be a community hub” –Meghan Bellavance, Librarian, Milton Public Library

“Milton is an interesting community because it's an interesting mix of people who have recently moved because it's an affordable place to live in Chittenden (work in Burlington) and folks who have lived their for years and years in generational poverty, rural (farming families)

-Kristin Fontaine, Pediatric Outreach Coordinator, UVM Medical Center

# Intervention and Methodology

- ▶ Presentation given to UVMHC Family Medicine residents
- ▶ Summarized research
- ▶ Gave a screening intervention tool (7)
  - ▶ Three screening questions were found to be effective in detecting inadequate health literacy (weaker for identifying marginal health literacy)
    - ▶ How often do you have someone help you read hospital materials?
    - ▶ How confident are you filling out medical forms by yourself?
    - ▶ How often do you have problems learning about your medical condition because of difficulty
- ▶ Summarized AAFP guidelines/recommendations for assessing literacy in patients (8)
- ▶ Provided a small number of recommendations for community resources to utilize for patients in which there is an identified literacy need
  - ▶ Milton library, Milton Family Community Center, Community Health Team, UVMHC outreach



# Results/Response

- ▶ Several providers responded to the topic of the project with an identification that this is a huge area of need
  - ▶ “I sometimes forget to check with patients”
  - ▶ “CCAs often tell us that patients forgot to bring their paperwork or say that they will fill it out later”
- ▶ Feedback post-presentation was very positive
  - ▶ “This is a huge issue that I don’t think about”
  - ▶ “I often assume patients understand what I say and then they call back later with tons of questions, even if I give them a printout with instructions”
  - ▶ “I need to be better about doing teach-back”

# Evaluation of effectiveness and limitations

- ▶ Evaluation of effectiveness
  - ▶ Patients
    - ▶ Ask patients if the screening questions were asked
    - ▶ Assess patients' understanding of discharge instructions
  - ▶ Clinicians
    - ▶ Assess whether providers use the screening questions
    - ▶ Note frequency of teach-back usage in a clinic visit
- ▶ Limitations
  - ▶ Patients are reluctant to disclose an issue, which makes evaluation of improvements difficult
  - ▶ Limitations of clinic time to implement additional screening tools
    - ▶ Attempted to create suggestions that would not place an undue burden on a physician's time or resources and be realistic about the possibilities to implement additional screening in a busy practice

# Recommendations for future

- ▶ If this is a huge problem in Milton (which it subjectively has been identified as), it is most likely an even bigger problem in places with lower SES and less access to resources
- ▶ These simple screening methods allow providers to identify patients who may either need more time or more resources, and allow providers to connect patients to these resources
- ▶ Recommendations can be generalized to any practice, with identification of specific community-available resources
- ▶ Next steps would be to integrate some of these screening questions into EHRs
  - ▶ Perhaps in new patient paperwork or well person visits as a part of the screening questionnaires or in a smartset

# References

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# Interview consent form

## Interview #1: Kristin Fontaine, UVM Medical Center Pediatric Outreach Coordinator

Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. It will be stored on the Dana Library ScholarWorks website. Your name will be attached to your interview and you may be cited directly or indirectly in subsequent unpublished or published work. The interviewer affirms that he/she has explained the nature and purpose of this project. The interviewee affirms that he/she has consented to this interview. Yes ☒ / No ☐

## Interview #2: Meghan Bellavance, Director, Milton Public Library

Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. It will be stored on the Dana Library ScholarWorks website. Your name will be attached to your interview and you may be cited directly or indirectly in subsequent unpublished or published work. The interviewer affirms that he/she has explained the nature and purpose of this project. The interviewee affirms that he/she has consented to this interview. Yes ☒ / No ☐